

Date: Monday, 14/04/2008 1:07:50 PM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : SHORT STEP ASSEMBLY
<b>Job Number</b> : 38593	
<b>Estimate Number</b> : 11999	
<b>P.O. Number</b> :	<b>Part Number</b> : D350591122
<b>This Issue</b> : 14/04/2008 <b>S.O. No.</b> :	<b>Drawing Number</b> : D2351 UNDER REVIEW 08.04.14
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : / / <b>Type</b> : LARGE FAB ASSY	<b>Drawing Revision</b> : E
<b>Previous Run</b> : 37895	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 30/04/2008 <b>Qty:</b> 4 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : JLD 08.4.14	
<b>Comment</b> : Est Rev:E 02.10.21 Re-format; Incorporated D2351-041 IPP K J/RF	

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	DC	DOCUMENT CONTROL
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**Comment:** DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D350-591-122 CH0003

CH0004 508/05/00 JLD  
08.4.21

2.0	D2244116	Step Extrusion
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**Comment:** Qty.: 0.5000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part Number Description Batch

0.5 D2244-116 Extrusion 833733

SAD 08/04/17

(4)

3.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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**Comment:** LARGE FABRICATION RESOURCE 1

1-Cut D2244-116 extrusion to 55.32" long as per Dwg D2351 using cutting table setup DT8185-G

2-Drill extrusion per Dwg D2351 using Jig DT8230 for rivets.

SAD 08/04/17

(4)

4.0	QC5	INSPECT WORK TO CURRENT STEP
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**Comment:** INSPECT WORK TO CURRENT STEP

SAD 08/04/17

5.0	BENDING	BENDING MACHINE - SKIDTUBES
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**Comment:** BENDING MACHINE

Bend as per dwg

EL 8-51

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 38593

Part Number: D350591122

Job Number:



Seq-#: Machine Or Operation: Description:

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

50865101 (4)

7.0

D28502

End Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 4.0000 Each(s)  
Pick:

Qty Part Number Description Batch  
1 D2850-2 End Bracket 331409

SE 08.05.12 4

8.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Bevel Fwd and Aft end for welding

2-Weld Aft End Bracket per QSI 004 & Dwg D2351 using Welding Jig DT8033  
A/R Aluminum Rod m107678

3-Do not Grind Flush

SE 08.05.12 4  
SE 08.05.12 4  
SE 08.05.12 4

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

PD 08.05.13 (4)

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

50865101 (4)

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

MB/BR 08-05-13 (4)

12.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

SE 08.05.14 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 38593

Part Number: D350591122

Job Number:



Seq. #: Machine Or Operation: Description :

13.0 D2582 Step Leg Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2582	Step Leg Assy	337425 = 3 B37452 = 1

Pl 08.05.14 4

14.0 MS20600AD4W3 Cherry Rivets



Comment: Qty.: 16.0000 Each(s)/Unit Total: 64.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
16	MS20600AD4W3	Rivet	M102929

Pl 08.05.14 4

15.0 LARGE FAB 1 LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Rivet Leg Assembly as per Dwg D2351

Pl 08.05.14 4

16.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/05/14 44

17.0 D267334 End Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:

Qty	Part Number	Description	Batch
1	D2673-34	End Plate	336406

Pl 08.05.14 4

18.0 LARGE FAB 1 LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Weld Fwd End Plate per QSI 004 & Dwg D2351

A/R Aluminum Rod M106834

2-Grind end plate flush.

Pl 08.05.14 4  
Pl 08.05.14 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 38593

Part Number: D350591122

Job Number:



Seq. #: Machine Or Operation: Description:

19.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

PD 08-05-14 (4)

20.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/05/14 (4-122)

21.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1  
Touch up Alodine

BR 08-05-15

30 min  
15/05/2008

22.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

M 10792 S

M-L

08/05/15

S.247 1.34  
#1 320.8 F  
#2 B38-593  
#3  
#4 0350591122

23.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Wing Walk per Dwg D2351 and QSI 005 4.4

Batch:

M 10789 2

R/M-L

08/05/15

(4X)

24.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

S 08/05/20 (40)

25.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

26.0

D22301

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:

Packing Kit Qty Part Number Description Batch

1 D2230-1 Mounting Lug 38740

P 08/05/16 (4)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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**NOTE:** Date & initial all entries



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Drawing Name: SHORT STEP ASSEMBLY

Job Number: 38593

Part Number: D350591122

Job Number:



Seq. #:

Machine Or Operation:

Description :

27.0

D22303

Mounting Lug



Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch  
1 D2230-3 Mounting Lug 37918

28.0

D2856400

Abrasion Strip



Comment: Qty.: 0.6000 f(s)/Unit Total : 2.4000 f(s)

Pick:

Packing KitQty Part Number Description Batch  
1 D2856-400 7.20" Abrasion Strip 36161

29.0

AN337A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 8.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch  
2 AN3-37A Bolt M105425

30.0

AN413A

Bolt



Comment: Qty.: 3.0000 Each(s)/Unit Total : 12.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch  
3 AN4-13a Bolt M107534

31.0

AN960JD10

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 16.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch  
4 AN960JD10 Washer M107715 1X M107799 15X

32.0

AN960JD416

Washer



Comment: Qty.: 6.0000 Each(s)/Unit Total : 24.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch  
6 AN960JD416 Washer M107321

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Job Number: 38593

Part Number: D350591122

Job Number:



Seq. #:

Machine Or Operation:

Description :

33.0

MS21042L3

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 8.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

2 MS21042L3 Nut (or -3) M107644

34.0

MS21042L4

Nut



Comment: Qty.: 3.0000 Each(s)/Unit Total : 12.0000 Each(s)

Pick:

Packing KitQty Part Number Description Batch

3 MS21042L4 Nut (or -4) M106051

35.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

36.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-591-122

Location: 80

PPP Rev: D

8/5/20

(4)

SC

37.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/05/20

Job Completion



MF 08-05-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**DART**

DESIGN KE	DRAWN BY PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 1 OF 2
DATE 05.11.14		TITLE HIGH FLOAT STEP ASSEMBLY	SCALE NTS
A	95.02.15	NEW-ISSUE	
B	97.05.22	END CAPS CHANGED	
C	97.07.23	ADDED BUSHING AND FACING INFO	
D	98.12.17	CHANGED TO BEND, D2850 REPLACES D2357 & D2358, INCORP. DEO 9084	
E	05.11.14	UPDATE FINISHING NOTE	

**D2351 HIGH FLOAT STEP ASSEMBLY PARTS LIST**

Part No.	Description	QTY -041	QTY -042
D2351-041	High Float Step Assembly (LH)	X	
D2351-042	High Float Step Assembly (RH)		X
D2244-55.4	STEP EXTRUSION*	1	1
D2582	STEP LEG ASSEMBLY	1	1
D2673-34	STEP END PLATE	1	1
D2850-1	END BRACKET	1	
D2850-2	END BRACKET		1
MS20600AD4W3	RIVETS	16	16

\*cut per drawing

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SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 38593

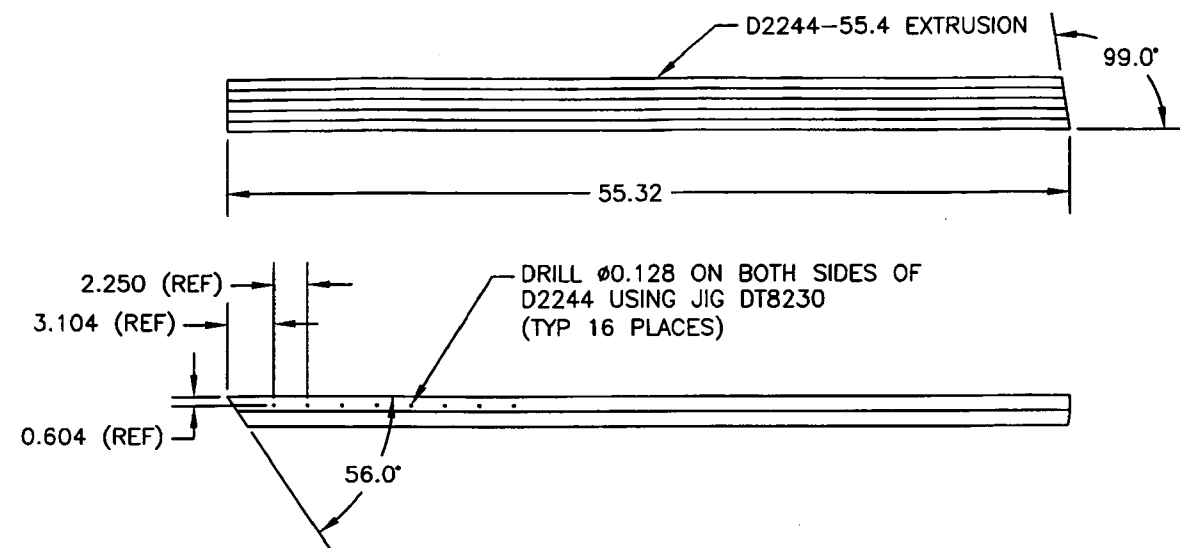
**RELEASED**  
05.11.28 #**UNDER REVIEW**

PH  
03.04.14  
07.11.24  
PUR. ACC. # 2634

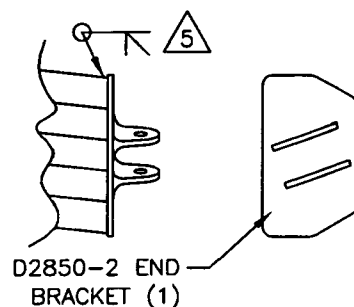
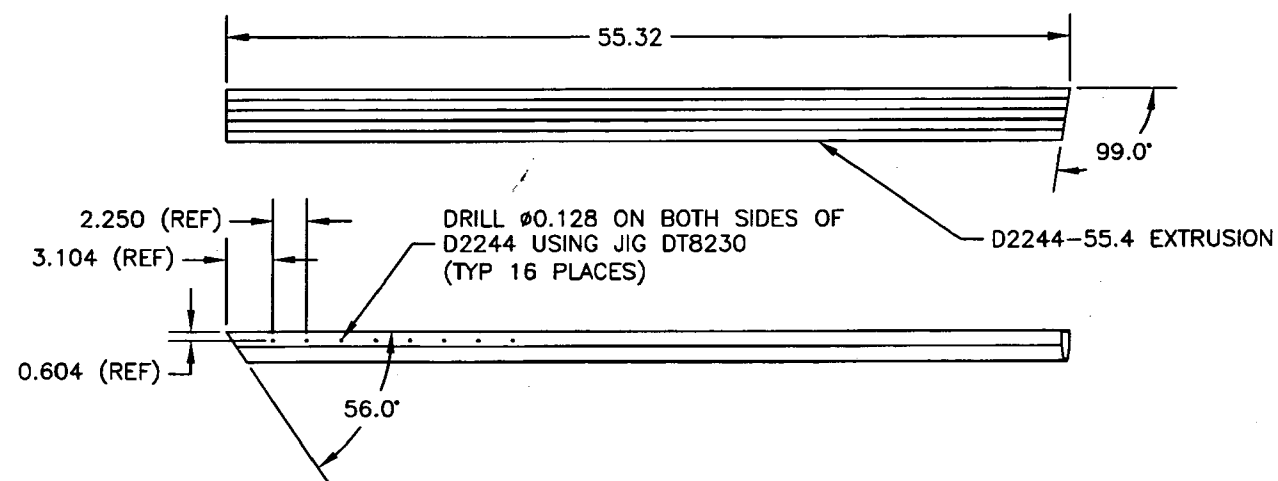
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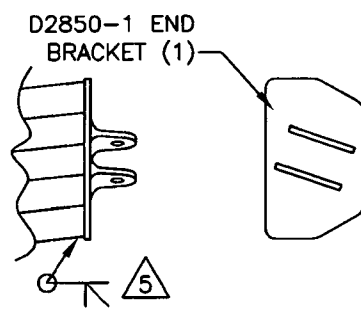
D2351-2 CUTTING/DRILLING DETAIL  
RIGHT STEP



D2351-1 CUTTING/DRILLING DETAIL  
LEFT STEP



DETAIL A  
SCALE: 1:4



DETAIL B  
SCALE: 1:4

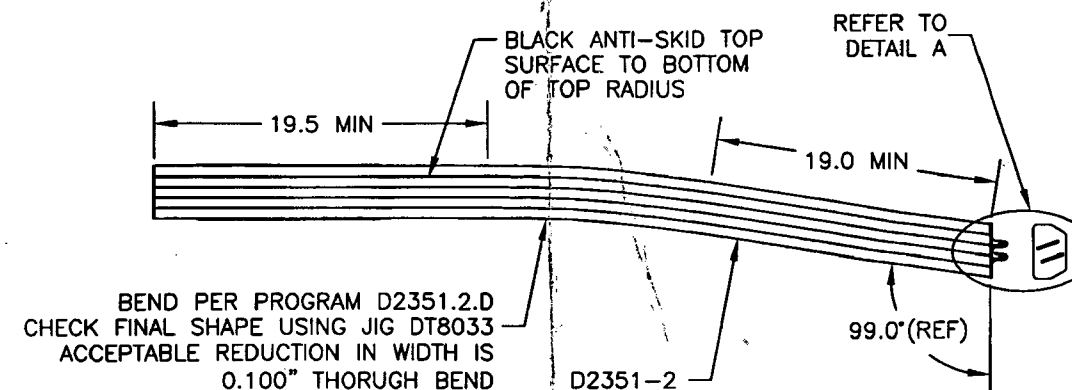
D2582 STEP LEG ASSEMBLY (1)



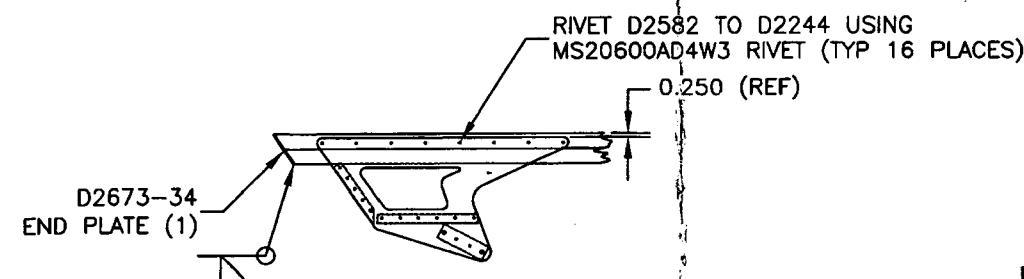
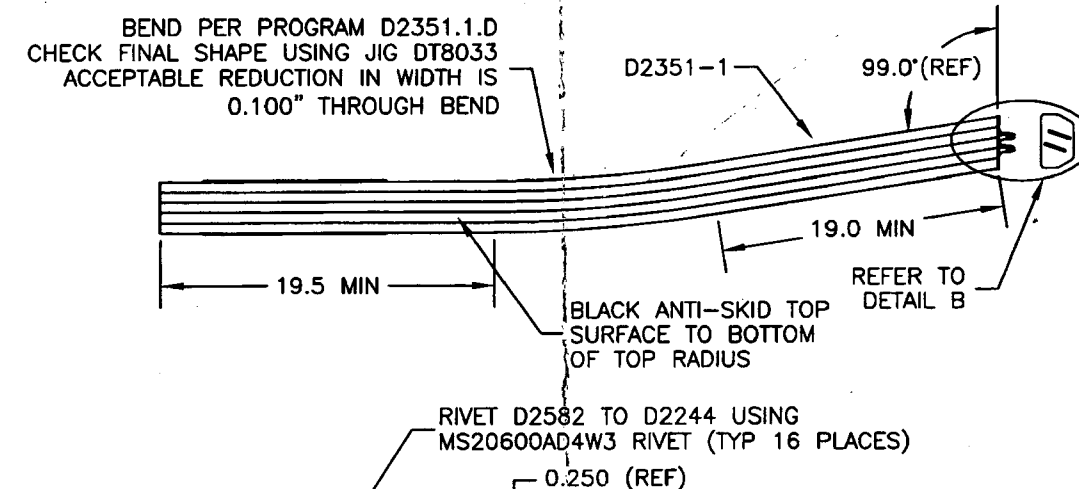
GENERAL NOTES

- 1) WELD PER DART QSI\_004
  - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
  - 3) ALL DIMENSIONS ARE IN INCHES
  - 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5 CHAMFER D2244 EXTRUSION 0.075"x45" BEFORE WELDING D2850-1 OR D2850-2 IN PLACE. DO NOT GRIND FLUSH.

D2351-042 BENDING/ASSEMBLY DETAIL  
RIGHT STEP



D2351-041 BENDING/ASSEMBLY DETAIL  
LEFT STEP



RELEASED  
05.11.28

UNDER REVIEW

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DESIGN KE	DRAWN BY PH	<b>DART</b>	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D2351	REV. E SHEET 2 OF 2
DATE 05.11.14	TITLE HIGH FLOAT STEP ASSEMBLY	SCALE 1:12	

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